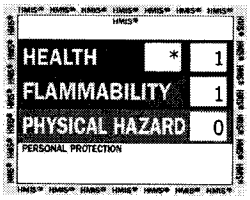
CLEARWATER™
Engineered Chemistry®

Material Safety Data Sheet

BXL 8.5C



1. Product and Company Identification

Material name	**BXL 8.5C**
Patent Number	Not available
Revision date	January-22-2009
Version No.	4
CAS #	Mixture
Product use	CROSSLINKER
Manufacturer information	Clearwater International L.L.C. 100 Leetsdale Industrial Drive Leetsdale, PA 15056 US CHEMTREC 1-800-424-9300/703-527-3887
Emergency	CHEMTREC 1-800-424-9300/703-527-3887
Supplier information	Clearwater International L.L.C. 4420 South Flores Rd. Elmendorf, TX 78112 US
Supplier emergency telephone number(s)	CHEMTREC 1-800-424-9300/703-527-3887

2. Hazards Identification

Emergency overview	CAUTION Irritating to eyes, respiratory system and skin. Prolonged exposure may cause chronic effects. Components of the product may be absorbed into the body by inhalation, ingestion and through the skin.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Eyes	Do not get this material in contact with eyes.
Skin	Do not get this material in contact with skin.
Inhalation	Prolonged inhalation may be harmful. Do not breathe dust/fume/gas/mist/vapors/spray.
Ingestion	May cause delayed lung damage. Do not ingest. Components of the product may be absorbed into the body by ingestion.
Target organs	Central nervous system. Eyes. Lungs. Respiratory system. Skin.
Chronic effects	Shortness of breath. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. May cause delayed lung damage.
Signs and symptoms	Discomfort in the chest. Shortness of breath. Narcosis. Decrease in motor functions. Behavioral changes. Cough.

Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Ethylene Glycol	107-21-1	15 - 40
Boric Acid	10043-35-3	3 - 7

4. First Aid Measures

First aid procedures

Eye contact Get medical attention if irritation develops or persists. Immediately flush eyes with plenty of water for at least 15 minutes.

Skin contact Wash off with soap and plenty of water. Get medical attention if irritation develops or persists.

Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately.

Ingestion If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice.

Notes to physician Symptoms may be delayed.

General advice Call a physician if symptoms develop or persist. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Extinguishing media

Suitable extinguishing media Water fog. Alcohol foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Protective equipment and precautions for firefighters Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Move containers from fire area if you can do it without risk. Do not scatter spilled material with high pressure water streams. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.

6. Accidental Release Measures

Personal precautions Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Stay upwind. Keep out of low areas.

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

7. Handling and Storage

Handling

Use only with adequate ventilation. Do not breathe vapors or spray mist. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage

Store in a closed container away from incompatible materials. Store in accordance with local/regional/national/international regulation.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH

Components	CAS #	TWA	STEL	Ceiling
Ethylene Glycol	107-21-1	Not established	Not established	100 mg/m3
Boric Acid	10043-35-3	2 mg/m3	6 mg/m3	Not established

Engineering controls

Provide adequate ventilation.

Personal protective equipment

Eye / face protection

Wear chemical goggles.

Skin protection

Wear chemical protective equipment that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Protective gloves.Impervious gloves.

Respiratory protection

Wear positive pressure self-contained breathing apparatus (SCBA). When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

General hygeine considerations

When using do not eat or drink. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance Clear.

Color colorless - light yellow

Odor Amine-like.

Odor threshold Not available

Physical state Liquid.

Form	Liquid.
pH	7.1 - 8
Melting point	33.8 °F (0.89 °C) estimated
Freezing point	Not available
Boiling point	217.4 °F (103 °C) estimated
Flash point	201 °F (93.9 °C)
Evaporation rate	Not available
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.09 - 1.12
Relative density	1.1049 g/cm3 estimated
Solubility (water)	Not available
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	149 °F (65.25 °C) estimated
Decomposition temperature	Not available
VOC	16.39 % estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Amines. Isocyanates. Strong oxidizing agents. Strong acids. Caustics.

11. Toxicological Information

Acute effects Acute LD50: 21211 mg/kg estimated, Rat, Oral

Component analysis - LD50

Toxicology Data - Selected LD50s and LC50s

Boric Acid	10043-35-3	Oral LD50 Rat: 2660 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg
Ethylene Glycol	107-21-1	Oral LD50 Rat: 4000 mg/kg; Dermal LD50 Rabbit:9530 µL/kg

Sensitization Not expected to be hazardous by OSHA criteria.

Chronic effects Hazardous by OSHA criteria. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged or repeated exposure may cause lung injury. Prolonged exposure may cause chronic effects.

Carcinogenicity Not expected to be hazardous by OSHA criteria.

ACGIH - Threshold Limit Values - Carcinogens

Boric Acid	10043-35-3	A4 - Not Classifiable as a Human Carcinogen
Ethylene Glycol	107-21-1	A4 - Not Classifiable as a Human Carcinogen

Neurological effects Hazardous by OSHA criteria.

Further information Symptoms may be delayed.

12. Ecological Information

Ecotoxicity

EC50 46758 mg/L estimated, Daphnia, 48.00 Hours,
Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae Data

Ethylene Glycol	107-21-1	96 Hr EC50 Selenastrum capricornutum: 6500-1300 mg/L

Ecotoxicity - Freshwater Fish Species Data

Boric Acid	10043-35-3	72 Hr LC50 Carassius auratus: 1020 mg/L [flow-through]
Ethylene Glycol	107-21-1	96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Lepomis macrochirus: 27500 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 49000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static]

Ecotoxicity - Microtox Data

Ethylene Glycol	107-21-1	30 min EC50 Photobacterium phosphoreum: 620.0 mg/L; 30 min EC50 Photobacterium phosphoreum: 620 mg/L; 16 Hr EC50 Pseudomonas putida: 10000 mg/L

Ecotoxicity - Water Flea Data

Boric Acid	10043-35-3	48 Hr EC50 water flea: 115.0 mg/L [Static]; 48 Hr EC50 Daphnia magna: 658-875 mg/L
Ethylene Glycol	107-21-1	48 Hr EC50 water flea: 46300 mg/L

Environmental effects

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13. Disposal Considerations

Disposal instructions

Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements

Not regulated as hazardous goods.

Department of Transportation (DOT) Requirements

Bulk

Not regulated as hazardous goods.

Department of Transportation (DOT) Requirements

Not regulated as dangerous goods.

Canadian Transportation of Dangerous Goods (TDG) Requirements

Not regulated as hazardous goods.

IMDG

Not regulated as hazardous goods.

IATA

Not regulated as hazardous goods.

IATA

Not regulated as dangerous goods.

15. Regulatory Information

Labelling

Contains	Boric Acid, Ethylene Glycol
US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Ethylene Glycol	107-21-1	1.0 % de minimis concentration

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical	Yes

CERCLA (Superfund) reportable quantity

Ethylene Glycol: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes

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Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

International regulations

Canada - WHMIS - Ingredient Disclosure List

Boric Acid	10043-35-3	1 %
Ethylene Glycol	107-21-1	1 %

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - Massachusetts - Right To Know List

Ethylene Glycol	107-21-1	Present

U.S. - Minnesota - Hazardous Substance List

Ethylene Glycol	107-21-1	Present (particulate and vapor)

U.S. - New Jersey - Right to Know Hazardous Substance List

Ethylene Glycol	107-21-1	sn 0878

U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene Glycol	107-21-1	Environmental hazard

U.S. - Rhode Island - Hazardous Substance List

Ethylene Glycol	107-21-1	Toxic; Flammable

U.S. - Texas - Effects Screening Levels - Long Term

Boric Acid	10043-35-3	1 µg/m3 ESL (under review)
Ethylene Glycol	107-21-1	10 ppb ESL (46% Ethylene glycol); 26 µg/m3 ESL (46% Ethylene glycol)

U.S. - Texas - Effects Screening Levels - Short Term

Boric Acid	10043-35-3	10 µg/m3 ESL (under review)
Ethylene Glycol	107-21-1	100 ppb ESL (46% ethylene glycol); 260 µg/m3 ESL (46% ethylene glycol)

16. Other Information

HMIS® ratings

Health: 1*
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 1
Flammability: 1
Instability: 0

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MSDS sections updated	Product and Company Identification: Product and Company Identification Hazards Identification: Emergency overview Physical & Chemical Properties: Odor Physical & Chemical Properties: Appearance Physical & Chemical Properties: Color